

## USAMMDA INFORMATION PAPER

### **PRODUCT:** CHITOSAN BANDAGE COMPONENT (CONGRESSIONAL)

**DESCRIPTION:** Historically, hemorrhage is the single major cause of death among those killed in action. The Chitosan Dressing has been developed to provide rapid hemostasis in severely bleeding external wounds. This dressing is currently being used by Army and Special Operations Forces medical personnel in Operations Enduring and Iraqi Freedom. The primary component of the Chitosan Dressing is chitosan, which is a naturally occurring, biocompatible polysaccharide derived from chitin contained in the exoskeletons of shrimp. The composition of harvested chitosan is highly variable; the amount of trace contaminants is dependant on water quality and diet. Chitosan for medical or pharmaceutical uses must be produced under stringent production practices. Medical grade chitosan is not available in sufficient quantity, reliability, and purity from U.S. suppliers for the production of the Chitosan Dressing. The purpose of Chitosan Bandage Component program is to develop a prototype chitosan production facility within the U.S. where state-of-the-art aquaculture and chemical engineering techniques may be used to produce pharmaceutical grade chitosan in a cost-effective manner.

**PROGRAM RELEVANCE TO THE ARMY:** This product supports both the core mission of the Army and the Army Campaign Plan. Of the Army's core competencies, this product supports "Forcible Entry Operations," "Sustained Land Dominance," and "Support of Civil Authorities." In any conflict or civilian disaster, it is an unfortunate fact that there will be casualties with severe bleeding. This product is intended to save soldiers' lives in those situations. The aid man and the combat lifesaver will use it far forward to reduce bleeding and allow the casualty to be evacuated to available medical assets further back, again reducing the logistical burden far forward. This product supports Future Operational Capabilities: MD-02-001 Clearing the Battlefield and MD-02-002 Hospitalization.

### **ISSUES/ACTIONS:**

- This is a new program.
- The establishment of a U.S. based chitosan production facility will enable the manufacture of chitosan with the lowest levels of residual heavy metal content in order to meet U.S. Food and Drug Administration requirements for safety and efficacy.

### **ADDITIONAL INFORMATION:**

**BPL #** 442

**DA PROJECT/TASK:** Trauma Management –  
PE/PROJ 643807/836AJ

**MAMP RANK:** 1/36

**ARMY ORD:** Approved, 28 April 1999

**SOCOM ORD:** Approved, 15 June 1998

**SCHEDULE:**

TBD

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